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ABSTRACT

Data were gathered on a statewide basis in 102 Illinois counties on both the incidence and prevalence of adolescent public psychiatric hospitalizations and the identified self-destructive behaviors: (1) completed suicides; (2) assaultive behaviors; (3) runaway behavior; (4) substance abuse; and (5) teenage births, from fiscal year 1985 through fiscal year 1988. Data were analyzed to examine whether there was any relationship between mental illness severe enough to require psychiatric hospitalization and suicide and other self-destructive behaviors. It was hypothesized that there should be significant correlations between psychiatric hospitalization rates in a particular county and suicide rates. It was further hypothesized that completed suicides are only one of a continuum of adolescent self-destructive behaviors rather than being specifically related to psychiatric disorders. Analysis revealed only one year (FY86) wherein a significant correlation ($p<.05$) existed between public psychiatric hospitalization rank by rates and suicide rank by rates, whereas significant correlations ($p<.01$ + $p<.05$) were found between psychiatric hospitalization and substance abuse, teenage births, assaultive behaviors, and runaway behaviors in all years examined. (Author/NB)

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A Four-Year Analysis of Adolescent Self-Destructive Behavior and Psychiatric Hospitalization

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ABSTRACT

A Four-Year Analysis of Adolescent Self-Destructive Behavior and Psychiatric Hospitalization

Data was gathered on a state-wide (Illinois) basis in 102 counties, on both the incidence and prevalence of adolescent public psychiatric hospitalizations (PPH) and the identified self-destructive behaviors of 1) Completed Suicides, 2) Assaultive Behavior, 3) Runaway Behavior, 4) Substance Abuse and 5) Teen Births (FY '85-FY '88) to allow for an examination of a) commonly hypothesized relation between adolescent suicide and "psychiatric disorders" and b) previously reported association between adolescent suicide and other self-destructive behaviors. Analysis revealed only one year (FY '86) wherein a significant correlation ($p < .05$) existed between PPH rank by rates and suicide rank by rates, whereas significant correlations ($p < .01 + p < .05$) were found among Substance Abuse, Teen Births, Assaultive and Runaway Behavior (FY '85, '86, '87, '88).

A Four-Year Analysis of Adolescent Self-Destructive Behavior and Psychiatric Hospitalization

THE PROBLEM

The purpose of this study was to examine the prevalence of adolescent suicide and the adolescent self-destructive behaviors of teen sexual acting-out (births), assaultive behavior, runaway behavior, and substance abuse and their interrelationship with each other and the utilization of public psychiatric hospitalization in the state of Illinois. Numerous studies (Alcohol, 1989) have reported an association among the above-listed self-destructive behaviors and both attempted and completed adolescent suicides, but no comprehensive etiological construct has been developed which explicates the 300% increase in the rate of adolescent suicide since 1960. Thus, in light of the documented variability of rates of completed adolescent suicides which increase from East to West and from urban to rural areas within the United States, as well as having differing rates among different racial groups, ethnic group and social classes; it was felt to be important to develop a data base on Illinois adolescents for the study of this problem. Thus, data has been gathered on the rates per 100,000 of child and adolescent populations for each of the 102 counties of Illinois for FY '85 - FY '88 in the areas of:

1. Psychiatric Hospitalization in public adolescent units.
2. Completed Suicides.
3. Teen Births.
4. Admission to outpatient and residential programs for substance abuse.
5. Arrests for runaway behavior.
6. Arrests for assaultive behavior (rape, murder, manslaughter, assault).

Correlation coefficients were calculated, based upon the assumption that

if there were any relationship between mental illness severe enough to require psychiatric hospitalization and suicide and other self-destructive behaviors, there should be a significant correlation among these events. Thus, it was hypothesized that there should be significant correlations between psychiatric hospitalization rates in a particular county and suicide rates. This hypothesis was based upon the perspective expressed by some mental health professionals that "... psychiatric disorders appear to be the most significant precondition to youth suicide "(Hoberman and Garfinkel, 1988) and the "suicide is a feature of mental illness" (Shaffer et al, 1988).

The second hypothesis is that completed suicides are only one of a continuum of adolescent self-destructive behaviors rather than being specifically related to "psychiatric disorders", which are operationally defined as behavior requiring public psychiatric hospitalization.

PROCEDURES

1. Completed Suicides

   Data was gathered from the Illinois Department of Public Health on the number of adolescent suicides (12-24 y.o) reported in each fiscal year (FY '85 - '88). Rates per 100,000 child and adolescent population were calculated for each of the counties, which were then ranked from the highest to lowest.

2. Public Psychiatric Hospital

   Data was gathered from the Illinois Department of Mental Health and Developmental Disabilities (DMH/DD) in regards to the number of adolescents (12-18 y.o.) admitted to its public adolescent psychiatric treatment units in each fiscal year (FY '85 - '88). This data was seen as providing an operational definition of "psychiatric disorders". Adolescents were

assigned to their counties of residence, and admission rates per 100,000 child and adolescent population. Counties were then ranked from the highest to the lowest admission rates.

3. Runaway Behavior

Information was gathered from the Illinois State Police on the number of adolescents (12-16 y.o.) picked up after having been reported as being "Missing". These data were analyzed on a county by county basis, rates per 100,000 child and adolescent population were calculated and counties were ranked from the highest to lowest level.

4. Assaultive Behavior (Violent Arrests)

Arrest on charges of rape, murder, manslaughter and assault for adolescents (12-17 y.o.) were reviewed for FY '85 - FY '88, on a county by county basis; and arrest rates were calculated on a rate per 100,000 child and adolescent population. Counties were then ranked from highest to lowest level.

5. Teen Births (Teen Pregnancy)

Records of births to women under the age of 20 years of the Illinois Department of Public Health were received on a county by county basis, to assess the incidence of teen pregnancy for FY '85 - FY '88. Birth rates per 100,000 child and adolescent population were calculated and counties were ranked from highest to lowest.

6. Substance Abuse

Records of the Illinois Department of Alcoholism and Substance Abuse (DASA), were reviewed for FY '85 - FY '88 to identify the numbers of adolescents who were admitted to both outpatient and residential treatment programs for substance abuse. Inasmuch as DASA gathered its data according to Metropolitan Statistical Districts (MSD) rather than counties,

numbers of adolescents in each MSD were allocated to the constituent counties, based upon their representative proportion of children and adolescents in the total MSD. Rates per 100,000 child and adolescent population were then calculated and the counties were ranked from the highest to the lowest.

RESULTS

1. Correlation coefficients were calculated on the ranking of rates of counties per 100,000 child and adolescent population for the top 15 counties in PPH, the bottom 15 counties for PPH and all 102 counties for FY '85 - FY '88. Thus the ranking of the rate of adolescent PPH was examined twelve times, but only revealed one occasion (FY '86, 102 counties, $p < .05$) of a significant correlation (See Table 1).
2. Calculation of correlation coefficients between the ranking rates per 100,000 child and adolescent population for all 102 counties revealed significant correlations between the rates for public psychiatric hospitalization and Assaultive Behavior in FY '85 - FY '88 ($p < .01$), Runaway Behavior in FY '85 - FY '88 ($p < .01$), Substance Abuse in FY '86 ($p < .01$) and Teen Births in FY '85 - FY '88 ($p < .05$, $p < .01$ - FY '86) (See Table 1).

INSERT TABLE 1 HERE

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3. Calculation of correlation coefficients between the ranking of rates per 100,000 child and adolescent population for all 102 counties showed a consistent significant negative correlation between Teen Births and Substance Abuse in FY '85 ($p < .05$), FY 87 and FY '88 ($p < .01$) (See Table 2).

INSERT TABLE 2 HERE

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4. Analysis of correlation coefficients of the ranking of the rates of counties in the areas of the self-destructive behaviors of Assaultive Behavior, Substance Abuse and Runaway revealed significant intercorrelations (See Tables 3, 4, 5).

INSERT TABLE 3 HERE

INSERT TABLE 4 HERE

INSERT TABLE 5 HERE

DISCUSSION

Calculation of and examination of four years of data for 102 counties showed only a minimal relationship between the rate of public psychiatric hospitalization and the rate of completed suicides in that county. The one significant correlation (FY '86) is matched in that same year with Substance Abuse, but does not appear again, suggesting that it holds a relatively low place in the behaviors correlated with psychiatric hospitalization.

However, the significant correlations between PPH and the self-destructive behaviors of Runaway Behavior, Teen Births, Substance Abuse, and Assaultive Behavior are seen as documenting a relation between these behaviors and the

use of adolescent public psychiatric hospitalization. The lack of correlation between these behaviors and the rate for completed suicides is seen as arguing against any focal specificity within any of these groups for suicidal behavior. That is, it is hypothesized that completed suicides occur within all of these groups in response to a yet-to-be determined factor, rather than being concentrated within any one group.

Finally, the significant negative correlations between ranks for Teen Births and Substance Abuse admissions require attention and interpretation. It clearly suggests that the two groups are separate, and raises questions as to the factors involved in the antipathy between the "choice" of teen pregnancy and of substance abuse as a pattern of behavior. The results of this study are not seen as supporting the view that adolescent suicide is linked to a level of "psychiatric disorder" that is reflected in public psychiatric hospitalization, but are seen as supporting a significant relation between psychiatric hospitalization and all of these self-destructive behaviors. The significant correlations among the self-destructive behaviors of Assaultive Behavior, Substance Abuse, Runaway Behavior and Teen Births are interpreted as clearly demonstrating that these adolescents are all being drawn from a common pool, rather than being distinct and separate populations. It is important to note that these groups of adolescents are currently treated as separate and distinct clinical and behavioral populations, with little effort to discover any common cause or etiology. Further study is needed of the patterns of and relationship among these adolescent self-destructive behaviors, to aid in explicating their development and to help in developing programs of early identification and intervention.

TABLE 1

Adolescent Self-Destructive Behaviors Correlated With

Psychiatric Hospitalization - Correlation Coefficients of Ranks By Rates

(102 Counties)

	Hospitalization	Completed Suicides	Teen Births	Assaultive Behavior	Substance Abuse	Runaways
FY '85	Psychiatric	.0398	.2072*	.2263*	.1179	.1317
FY '86	" " "	.2506*	.2791**	.3410*	-.0413	.3436**
FY '87	" " "	-.0250	.1986*	.4809**	.0534	.5010**
FY '88	" " "	-.0069	.2074*	.4254**	.0896	.5560**

* Signif. p <.05, ** Signif. p <.01 (2-tailed)

TABLE 2

Teen Births

Correlation Coefficients of Ranks By Rates With Other

Self-Destructive Behaviors

(102 Counties)

		Substance Abuse	Assaultive Behavior	Runaway Behavior	Completed Suicides	Psychiatric Hospitalization
FY '85	Teen Births	-.2355**	.0790	.1135	-.1473	.2092*
FY '86	" "	-.1569	.2963**	.2700**	.0244	.2791**
FY '87	" "	-.4094**	.1594	.2005*	-.0334	.1986*
FY '88	" "	-.2842**	.3237**	.3071**	.1355	.2074*

* Signif. p <.05, ** Signif. p <.01 (2-tailed)

TABLE 3

Adolescent Assaultive Behavior

Correlation Coefficients of Ranks By Rates With Other

Self-Destructive Behaviors

(102 Counties)

		Runaway Behavior	Teen Births	Substance Abuse	Completed Suicides
FY '85	Assaultive Behavior	.7366**	.0790	-.0191	.1150
FY '86	" " "	.6297**	.2963**	.0783	.0869
FY '87	" " "	.6340**	.1594	.0986	.0920
FY '88	" " "	.6952**	.3237	.1114	.0743

* Signif. $p < .05$, ** Signif. $p < .01$ (2-tailed)

TABLE 4

Adolescent Substance Abuse

Correlation Coefficients of Ranks By Rates With Other

Self-Destructive Behaviors

(102 Counties)

		Assaultive Behavior	Runaway Behavior	Completed Suicides	Teen Births	Psychiatric Hospitalization
FY '85	Substance Abuse	-.0191	-.1018	.1179	-.2355**	.0627
FY '86	" " "	.0783	-.0396	-.0193	-.1569	-.0413
FY '87	" " "	.0986	.0424	.0896	-.4094**	.0534
FY '88	" " "	.1114	-.0379	-.0616	-.2842**	.0896

* Signif. p <.05, ** Signif. p <.01 (2-tailed)

TABLE 5

Adolescent Runaway Behavior

Correlation Coefficients of Ranks By Rates With Other

Self-Destructive Behaviors

(102 Counties)

		Assaultive Behavior	Completed Suicides	Teen Births	Substance Abuse	Psychiatric Hospitalization
FY '85	Runaway Behavior	.7366**	.1317	.1135	-.1018	.3123**
FY '86	" "	.6297**	.1476	.2700**	-.0396	.3436**
FY '87	" "	.6340**	.1480	.2005*	.0424	.5010**
FY '88	" "	.6952**	.0051	.3071**	-.0379	.5560**

* Signif. p <.05, ** Signif. p <.01 (2-tailed)

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